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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,240	10/22/2003	Oji Kuno	117585	4925
25944	7590	05/16/2006		
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			EXAMINER NGUYEN, CAM N	
			ART UNIT 1754	PAPER NUMBER

DATE MAILED: 05/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

✓

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/690,240	KUNO, OJI	
	<b>Examiner</b>	<b>Art Unit</b>	
	Cam N. Nguyen	1754	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02/14/06 (an amendment/response).
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on originally filed is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/29/05</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### **Response to Amendment**

1. Applicants' amendment and remarks, filed February 14, 2006, has been made of record and entered. Claims 4, 7, 12, & 15 have been amended. Claims 16-19 have been added.

Claims 1-19 are currently pending and under consideration.

2. The indicated allowability of claims 1-15 are withdrawn in view of the newly discovered reference(s) to Dransfield et al. (US Pat. 5,206,192). Rejections based on the newly cited reference(s) follow.

### **Claim Rejections - 35 USC § 102(b)**

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by Dransfield et al., "hereinafter Dransfield", (US Pat. 5,206,192).

Dransfield discloses a composition comprising particulate zirconia in which the particles are coated with a hydrous oxide of cerium and with at least one hydrous oxide selected from the group consisting of hydrous oxides of lanthanum, neodymium, and

praseodymium (see col. 8, claim 1). The majority of the particles have a diameter of less than or equal to 0.5 microns (or less than or equal to 500 nm) (see col. 8, claim 2).

The claimed limitation on "the metal oxide particles having cores comprising large molar amounts of zirconia than of ceria, and surface layers comprising larger molar amounts of ceria than of zirconia" is noted. It appears that a zirconia coated with ceria would meet this claimed limitation.

No patentable distinction is seen between the claimed metal oxide material and the composition disclosed by Dransfield. Thus, the claim is anticipated by the teaching of the reference.

**Claim Rejections - 35 USC § 103**

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-9 & 11-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dransfield et al., "hereinafter Dransfield", (US Pat. 5,206,192) taken together with Kimura et al., "hereinafter Kimura", (US Pat. 5,945,369).

Dransfield discloses a composition comprising particulate zirconia in which the particles are coated with a hydrous oxide of cerium and with at least one hydrous oxide selected from the group consisting of hydrous oxides of lanthanum, neodymium, and

praseodymium (see col. 8, claim 1). The majority of the particles have a diameter of less than or equal to 0.5 microns (or less than or equal to 500 nm) (see col. 8, claim 2).

Regarding claims 1 & 11, Dransfield does not disclose the noble metal. It would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have added the noble metal onto the composition of Dransfield in order to achieve a useful catalyst because noble metal is a known and useful catalyst material for treating exhaust gases, which is evidenced by Kimura (see Kimura at col. 19, claim 1).

Regarding claims 3 & 4, it is considered the claimed limitations are intended use limitations and they have no bearing on the patentability of the claimed catalyst. See In re Pearson, 181 USPQ 641 & In re Thrau, 57 USPQ 324.

Regarding claims 1, 5, & 7-9, it is considered the claimed Zr:Ce molar ratio and the molar ratio of Zr:Ce to other metals are met in view of the teaching of the reference (see Dransfield at col. 2, ln 51-57).

The claimed limitation on “the metal oxide particles having cores comprising large molar amounts of zirconia than of ceria, and surface layers comprising larger molar amounts of ceria than of zirconia” is noted. It appears that a zirconia coated with ceria disclosed by Dransfield would meet this claimed limitation.

Regarding the process claims 12-15 & 17-19, Dransfield discloses the claimed process of preparing the metal oxide particles (see col. 3, ln 30- col. 4, ln 68). While the reference does not specifically recite adjusting the pH of the solution within  $\pm 0.5$  on the basis of the isoelectric point of zirconia, it would have been *prima facie obvious* to

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one of ordinary skill in the art at the time the invention was made to have optimized such pH value in the same manner as claimed because it is a result effective variable and it involves only routine experimentation of one having the ordinary skill in the art to do so. See In re Boesch.

### **Response to Applicants' Arguments**

7. Applicants' response, filed on February 14, 2006, to the office action dated 11/14/05 has been considered, but not deemed persuasive in view of the new ground of rejections above.

### **Citations**

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. All references are cited for related art. See PTO-892 Form prepared.

### **Conclusion**

9. Claims 1-19 are pending. Claims 1-19 are rejected. No claims are allowed.

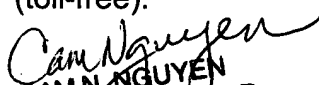
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Primary Examiner Cam N Nguyen, whose telephone number is 571-272-1357. The examiner can normally be reached on M, W, R, & F, 9:00 AM - 6:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nguyen/cnn  
May 09, 2006

  
CAM N. NGUYEN  
PRIMARY EXAMINER

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